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- 4 depositing a cladding material into the hole, the cladding material
5 substantially lining an interior surface of the hole; and
6 depositing an optical core material into the hole.

1 2. The method of claim 1 further comprising:

2 forming a lens on top of the optical core material.

1 3. The method of claim 2 further comprising:

2 depositing a polymer on top of the optical core material; and

3 curing the polymer to form a lens.

1 4. The method of claim 1 further comprising:

2 polishing the substrate.

1 16. The method of claim 1, wherein making the hole in the substrate is

2 achieved by etching.

1 17. The method of claim 16, further comprising:

2 forming a lens on top of the optical core material.

1 18. The method of claim 17, further comprising:

2 depositing a polymer on top of the optical core material; and

3 curing the polymer to form the lens.

- 1 19. The method of claim 18, further comprising:
2 polishing the substrate before forming the lens.
- 1 20. The method of claim 16, wherein the depositing the cladding material into
2 the hole is achieved by depositing an oxide into the hole.
- 1 21. The method of claim 20, wherein the depositing the optical core material
2 in the hole is achieved by depositing a first polymer in the hole.
- 1 22. The method of claim 21 further comprising:
2 depositing a second polymer over the first polymer; and
3 curing the second polymer to form a lens on top of the optical core
4 material.
- 1 23. (Withdrawn) A substrate comprising:
2 a hole extending from a first side of the substrate to a second side of the
3 substrate;
4 a deposition layer of cladding on an inner surface of the hole; and
5 a deposition layer of optical core material encased by the deposition layer
6 of cladding.

1 24. (Withdrawn) The substrate of claim 23, wherein the optical core material
2 is a polymer.

1 25. (Withdrawn) The substrate of claim 24 further comprising:
2 a polymer lens formed on one end of the deposition layer of cladding and
3 the deposition layer of optical core material.